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Calypterate Muscoid Flies Collected on the Mountains in the
Tôhoku District, Japan, with Description of a New
Species of *Mydaea* (Diptera, Muscidae)

By

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倉橋 弘*：東北地方の山地で採集された有弁翅蠅類と
マルハナイエバエ属の1新種

This is a brief report on the calypterate muscoid flies collected by the research project of the National Science Museum made in the Tôhoku District in 1982. Total 286 specimens obtained are represented by 74 species. One of them is new to science and is described in the text. Two of the remainings are recorded for the first time from Japan and are indicated with asterisks in the list of species (Table 1). Four species remain unidentified. Flies were collected by myself at the following three localities: A) Mt. Funagata (1,500 m), Miyagi Pref., Honshu, B) Mt. Gassan (1,980 m), Yamagata Pref., Honshu, C) Mt. Kenashi-yama (673 m), Oga Peninsula, Akita Pref., Honshu. The survey was made during the period from 6th to 16th September, 1982.

Description of new species

Mydaea nishijimai sp. nov.

♂.-*Head*: eyes holoptic, bare, separated at narrowest point by twice the width of anterior ocellus; frons index 0.04–0.05; frontal stripe black, reduced to a fine line at narrowest point; ocellar bristle long and strong, subequal to the longest *ori* located at antennal base; parafrontalia and parafacialia slender, bare, silver-dusted, the former with ca. 15 pairs of *ori*; face black, gray-dusted; jowls narrow, black, dark gray-dusted, with black hairs; medianae black, densely silver-dusted; facialia broad, bare, blackish brown, silver-gray dusted, bare except for several black setulae just above vibrissae; antennae blackish, slightly pruinose on the third segment, the 3rd segment about 2 times as long as 2nd, the 2nd with 3–4 long bristles; arista with long regular plumosity, the largest of which is near the width of 3rd antennal segment; vibrissal angle and epistome not projecting beyond anterior point of frons; peristome with rather strong black bristles; vibrissae very strong; proboscis normal, mentum black, thinly covered with gray dusting, with black hairs; palpi blackish with black hairs and spine-like short bristles.

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Thorax: wholly black, covered with gray dusting; all bristles and hairs black; mesonotum with each pair of black fine submedian vittae and triangular lateral spots before suture, behind suture with a pair of broad lateral vittae between *ia* and *dc*, and a pair of fine submedian vittae mesad of the *dc* extending from prescutum, a pair of rather broad vittae occupying the space between the 2nd and 3rd *dc* and the prescutellar *ac*; ground-setulae short and rather strong; prosternum, propleura and hypopleura bare; supraspiracular convexity with yellowish pubescence; notopleura setulose on posterior half; meso- and metathoracic spiracles blackish brown. Chaetotaxy; *ac* 0+1, *dc* 2+4, *ia* 0+1-2, *sa* 2, *pra* 1, shorter than posterior *h*, *h* 3, *ph* 1, *prs* 1, *n* 2, *st* 1+2, propleural and prostigmatal bristles well developed; scutellum concolorous with mesonotum, with a pair of strong apical bristles and 4 pairs of strong lateral marginal bristles, without discal bristle; disc, as mesonotum, densely gray-dusted, with short and rather strong setulae, lateral sides blackish in posterior view, with 1-2 irregular rows of sparse black setulae just below level of lateral marginal bristles, otherwise lateral margins and ventral surface bare.

Wings: hyaline, slightly infuscated on entire surface; veins yellowish at base, otherwise brown; stem vein bare; basicosta and epaulet black; subcostal sclerite yellowish brown, pubescent, without setulae; costa setulose ventrally almost to apex of vein 2; costal spine inconspicuous; vein 3 with a few black setulae on the node at base on both wing surfaces; veins 3 and 4 diverging all the way towards wing margin, the latter not even weakly inclined forward towards vein 3; small cross vein placed below point where vein 1 enters costa; hind cross vein oblique, somewhat sinuate; squamae, deep yellow, thoracic one tongue-shaped, bare on dorsal surface, with yellow fringes along margins; halteres yellowish brown.

Legs: black except for brown tibiae; fore and mid tibiae sometimes darkened basally; fore femur with complete rows of strong *pv* and *pd*; fore tibia with no submedian bristle; fore metatarsus with 1 spine-like bristle in ventral surface at base; mid femur with 4-5 spine-like bristles, 1 fine *a* and 3 *p-d* present on preapical portion; mid tibia with strong 2-3 *p*; hind femur with complete row of *ad* and incomplete row of *av*, the *av* before apex rather long and strong, 3 preapical *d-p*; hind tibia with 2-3 *ad* and 2-3 *av*, without any *pd* as well as calcar, preapical *d* 1.5 times as long as tibial depth, slightly longer than the *ad*, apical *pv* absent; pulvilli and claws well developed.

Abdomen: black, entirely covered with yellowish-gray dusting; black median vitta appearing on each tergite in caudal view; tergites 1+2 and 3 with row of marginal bristles, the median ones become shorter; tergite 4 with row of erect marginal bristles, incomplete row of several discals present on lateral sides close to marginals; tergite 5 with row of erect marginal bristle, several discal bristles present on lateral sides; sternite 1 bare; sternites 2-4 black, with black hairs and marginal bristles; sternite 5 with several strong bristles on inner margin of lateral lobe (Fig. 6); hypopygium as shown in Figs. 4-5.

♀.-Unknown.

Length: 7.5-9.5 mm.

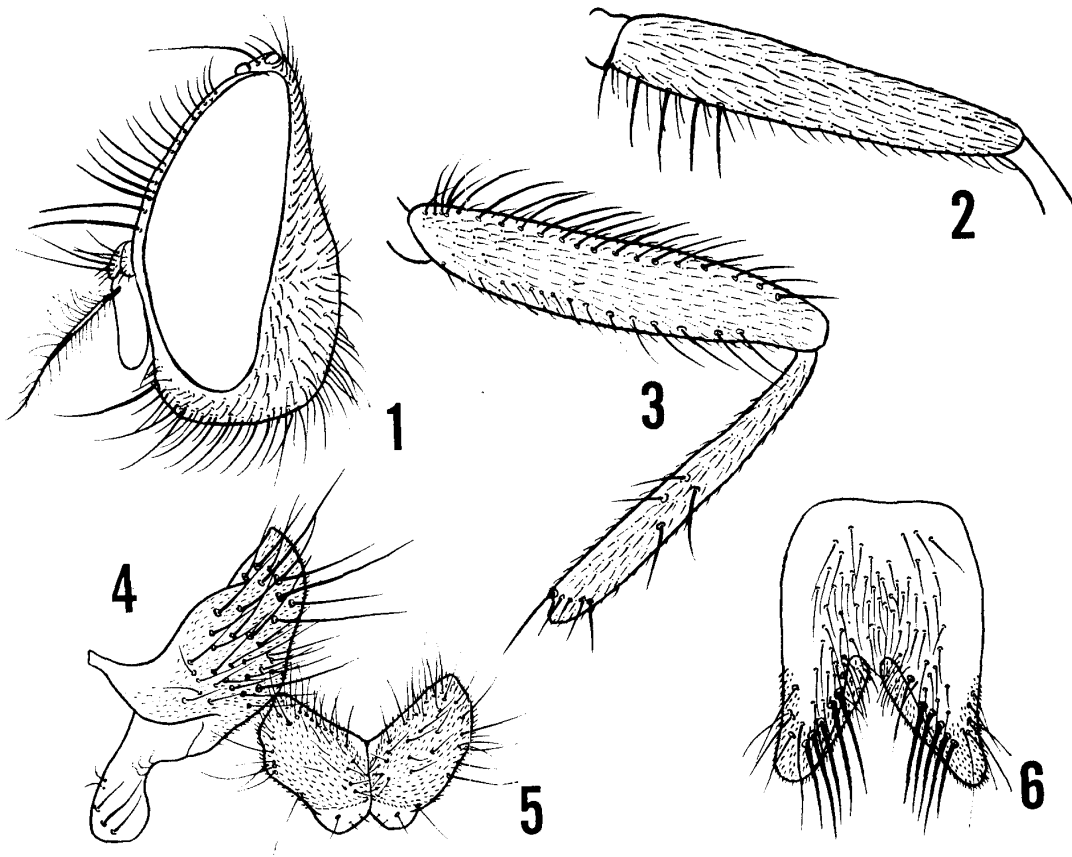
Holotype ♂, Mt. Kenashi-yama, Oga Peninsula, Akita Pref., Honshu, Japan, 11. IX. 1982 (H. KURAHASHI). Paratypes: 7♂♂, same data as holotype; 6♂♂, Mt. Iozen, Kaga, Ishikawa Pref., Honshu, 23. IV. 1966, 17. V. 1970 (H. KURAHASHI); 1♂, Toyoni, Hiroo,

Hokkaido, 11. VI. 1977 (M. IWASA). Holotype and paratypes are preserved in the National Science Museum, Tokyo. Paratypes are also deposited in the British Museum (Nat. Hist.) London and U.S. National Museum, Washington, D.C.

Specific name of this new species is dedicated to Prof. Dr. Y. NISHIJIMA, Laboratory of Entomology, Obihiro University, Hokkaido, in order to commemorate his retirement. He and his student observed this fly bred from dung of wild brown bear.

Mydaea nishijimai sp. nov. can be distinguished from *M. ancilla* MEIGEN to which it runs in the key given by HENNIG (1956: 120), by the following couplet:

- Parafacialia and jowls very narrow; row of *ori* not reaching ocellar triangle; 3rd antennal segment elongate, about 4× as long as the width; no distinct presutural *ac* present; mid femur with 4–5 spine-like bristles; mid tibia with 2–3 *p*; hind femur with incomplete row of *av* and complete one of *ad*.....*nishijimai* sp. nov.
 - Parafacialia 3/4 of the width of 3rd antennal segment; row of *ori* reaching ocellar triangle; jowls 2× as wide as 3rd antennal segment; 3rd antennal segment 2.5× as long as width; irregular row of 10–13 hair-like presutural *ac* distinguishable; mid femur with 5–6 long bristles; mid tibia with 3 *p*; hind femur with row of *av*.....*ancilla* Meigen
- Bionomics: *Mydaea* sp. (NISHIJIMA & IWASA, 1979), which is conspecific with *Mydaea*



Figs. 1–6. *Mydaea nishijimai* sp. nov. ♂ 1, head, lateral view; 2, mid femur, anterior view; 3, hind femur and tibia, anterior view; 4, epandrium and surstylus, lateral view; 5, cerci, caudal view; 6, fifth sternite, ventral view.

nishijimai sp. nov., was reared from dung of a wild brown bear in Hokkaido.

Distribution: Japan (Hokkaido & Honshu).

Notes on Some Interesting Species

The 74 species of the calypterate muscoid flies collected are listed in Table 1. The

Table 1. List of the calypterate muscoid flies collected on the mountains in the Tōhoku District.

Species	Localities			Species	Localities		
	A	B	C		A	B	C
Family Scatophagidae				<i>Calliphora vomitoria</i> (LINNÉ)	1♀		
Subfamily Scatomyzinae				<i>Triceratopyga calliphoroides</i> ROHDENDORF	1♀		
<i>Scatophaga stercoraria</i> (LINNÉ)	2♂♂			<i>Aldrichina grahami</i> (ALDRICH)	2♂♂ 14♀♀		1♀
<i>Scatomyza</i> sp.	1♂ 1♀			<i>Melinda okazaki</i> KANO		1♂	
Family Anthomyiidae				<i>Melinda tsukamotoi</i> KANO	1♀		
Subfamily Anthomyiinae				<i>Onesia nartshukae</i> (GRUNIN)	1♂		
<i>Delia longithecra</i> SUWA	17♂♂ 2♀♀			<i>Pollenopsis horii</i> KURAHASHI	4♂♂ 6♀♀		
<i>Pegoplata virginea</i> (MEIGEN)	3♂♂	1♂		<i>Lucilia papuensis</i> MACQUART			3♂♂ 3♀♀
<i>Emmesomyia socia</i> FALLÉN	3♂♂			<i>Lucilia ampullacea</i> VILLENEUVE	3♂♂		1♀
Family Muscidae				<i>Lucilia caesar</i> (LINNÉ)			1♀
Subfamily Muscinae				Subfamily Chrysomyinae			
<i>Musca hervei</i> VILLENEUVE			1♂ 2♀♀	<i>Chrysomya pinguis</i> (WALKER)			1♀
<i>Rypellia flavipes</i> MALLOCH	1♀			Subfamily Rhiniinae			
<i>Pyrellia tateyamensis</i> SHINONAGA	2♂♂			<i>Stomorphina obsoleta</i> (WIEDEMANN)	4♀♀		
<i>Dasyphora cyanicolor</i> (ZETTERSTEDT)	2♀♀			<i>Isomyia prasina</i> (BIGOT)	1♀		
Subfamily Phaoniinae				Family Sarcophagidae			
<i>Muscina angustifrons</i> (LOEW)	4♂♂	4♂♂		Subfamily Sarcophaginae			
<i>Muscina assimilis</i> (FALLÉN)	3♂♂			<i>Boettcherisca peregrina</i> (ROB.-DESVOIDY)	1♀		3♂♂ 1♀
<i>Muscina pascuorum</i> (FALLÉN)	4♂♂			<i>Parasarcophaga hokurikuensis</i> (HORI)			2♂♂
<i>Phaonia bambusa</i> SHINONAGA et KANO	3♂♂ 2♀♀			<i>Parasarcophaga kobayashi</i> (HORI)			1♂
<i>Phaonia japonica</i> SHINONAGA et KANO	1♂ 16♀♀	4♀♀		<i>Parasarcophaga tsushima</i> (SEN.-WHITE)			1♂
<i>Phaonia katoi</i> SHINONAGA et KANO	1♀			<i>Parasarcophaga similis</i> (MEADE)			2♂♂
<i>Phaonia montana</i> SHINONAGA et KANO			1♂	<i>Pierretia kagaensis</i> (HORI)			5♂♂
<i>Phaonia crassipalpis</i> SHINONAGA et KANO	2♀♀			<i>Pierretia takahashi</i> (KANO)	1♂		
<i>Phaonia fuscata</i> (FALLÉN)	1♀			<i>Sinomipponia erecta</i> (HO)			1♂
<i>Dichaetomyia bibax</i> (WIEDEMANN)	1♂			<i>Blaesoxipha laticornis</i> (MEIGEN)	1♀		
Subfamily Mydaeinae				Subfamily Miltogrammatinae			
<i>Graphomyia maculata</i> (SCOPOLI)	3♂♂		2♀♀	<i>Metopia argyrocephala</i> (MEIGEN)	1♀		
* <i>Limnophora orbitalis</i> STEIN	2♂♂ 3♀♀			<i>Metopia suifenhensis</i> FAN	1♂		
<i>Limnophora</i> sp. 1	27♂♂ 10♀♀	2♀♀ 1♀		Family Tachinidae			
<i>Limnophora</i> sp. 2	3♂♂ 11♀♀			Subfamily Phasiinae			
<i>Lispe orientalis</i> (WIEDEMANN)	2♂♂ 2♀♀			<i>Gymnosoma rotundatum</i> (LINNÉ)	1♂		
<i>Mydaea detrita</i> ZETTERSTEDT	1♀			Subfamily Tachininae			
<i>Mydaea urbana</i> (MEIGEN)	1♀			<i>Servillia amurensis</i> ZIMIN			1♀
<i>Mydaea nishijimai</i> sp. nov.		8♂♂		<i>Servillia luteora</i> COQUILLET			1♀
<i>Helina annosa</i> (ZETTERSTEDT)	2♀♀			<i>Echinomyia micado</i> KIRBY	1♂		1♀
<i>Helina deleta</i> (STEIN)	3♀♀	1♀		<i>Voria ruralis</i> FALLÉN			2♂♂
<i>Helina flagripes</i> RONDANI		1♂		<i>Torocca munda</i> WALKER	7♂♂ 1♀		
<i>Helina quadrum</i> FABRICIUS	2♂♂			<i>Linnaemyia pudica</i> RONDANI	1♂		1♂ 2♀♀
Subfamily Dexiinae				Subfamily Goninae			
<i>Dexia flavipes</i> (COQUILLET)	3♂♂ 1♀			<i>Carcelia excisa</i> (FALLÉN)	1♂		1♀
<i>Dexia</i> sp.		1♂		<i>Turanogonia chinensis</i> (WIEDEMANN)	2♀♀		
Family Fanniidae				<i>Winthemia venusta</i> (MEIGEN)			1♂
<i>Fannia kikouensis</i> OUCHI	1♀			<i>Compilura concinnata</i> MEIGEN	1♀		
<i>Fannia pretiosa</i> SCHINER		1♂		<i>Trigonospila ludia</i> ZETTERSTEDT	1♂		2♂♂
Family Calliphoridae				<i>Exorista japonica</i> TOWNSEND	1♂		
Subfamily Calliphorinae				<i>Thecocarcelia thrix</i> TOWNSEND	1♀		
<i>Calliphora lata</i> COQUILLET	4♂♂ 3♀♀						

Localities. A: Mt. Funagata (1,500 m), Miyagi Pref. B: Mt. Gassan (1,980 m), Yamagata Pref.
C: Mt. Kenashi-yama (673 m), Akita Pref.

material is too meagre to be served for a discussion about the fauna and zoogeography of the flies. Almost all are common species usually found in the mountainous areas of Honshu. *Onesia subalpina* KURAHASHI is an endemic fly previously known in this district, though I failed to collect it during the survey. The following four species have not been observed in the areas surveyed, either: *Calliphora vicina* ROB.-DESVOIDY, *Phormia regina* (MEIGEN), *Protophormia terraenovae* (ROB.-DESVOIDY) and *Orthellia pacifica* ZIMIN. They are known to be of medical and veterinary importance and to invade this district from the north (KURAHASHI *et al.*, 1976). They were accidentally introduced into the northern part of Honshu across the Tsugaru Straits by means of human activities, and has been found only in large towns and pastures. Despite the medical and veterinary importance, very little is known of the occurrence and distribution of these flies in Central Japan. New records of two muscid flies, *Limnophora orbitalis* STEIN and *Helina flagripes* RONDANI, will stimulate further studies on the four unidentified species. Both the newly recorded species are widely distributed in Europe, and the latter is also recorded from Central Asia (HENNIG, 1955–1964). The identification of the former was made by Dr. S. SHINONAGA.

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摘 要

国立科学博物館日本列島調査, 1982年度東北脊梁山地の生物地理学的研究調査に参加し, 1982年9月6日から16日まで A) 宮城県船形山 (1,500 m), B) 山形県月山 (1,980 m), C) 秋田県男鹿半島毛無山 (673 m) の3カ所で有弁翅蠅類の採集を行った。合計286個体の採集品を検討した結果, 74種を確認した。このうち2種は日本未記録であり, マルハナイエバエ属 *Mydaea* の1種は新種であった。74種のうち4種は種名を確定するまでに至らなかった。新種はニシジママルハナイエバエ *Mydaea nishijimai* sp. nov. と命名し記載した。日本未記録種 *Limnophora orbitalis* STEIN ミチノクミギワイエバエと *Helina flagripes* RONDANI キアシホシイエバエはともにヨーロッパに広く分布し, 後者は中央アジアからも記録されている。今回採集された蠅はほとんどが本州の山地に普通に見られるもので, 東北脊梁山地を特徴づける種類は発見できなかった。*Onesia subalpina* KURAHASHI ミチノククロバエは東北地方に固有な種であるが, 今回の採集地点では採れなかった。衛生上重要種であるホホアカクロバエ *Calliphora vicina* ROB.-DESVOIDY, クロキンバエ *Phormia regina* (MEIGEN), ルリキンバエ *Protophormia terraenovae* (ROB.-DESVOIDY) と獣医学上重要種である *Orthellia pacifica* ZIMIN の4種は北方から北海道を経て, 恐らく人為的に津軽海峡を渡って侵入したものと考えられており, これまで東北地方の大きな町や牧場で記録されてきたが, 今回の調査域が山地に限られていたためか, 3地点からは採集されなかった。

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